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REMARKS

The Applicant has carefully reviewed and considered the Office Action of 29 January 2007. In response the Applicant, presents the foregoing amendments to the claims, as well as new claims for consideration. In particular, new claim 28 is presented to replace original claim 1, and the dependent claims are adjusted accordingly. The substantive rejections of the claims will now be discussed in detail in the following subsections.

**Claims 2, 5-7 and 11-14 and 28 Comply with Sections 101 and 112 of the Patent Act**

Claims 2, 5-7, 11-14 and 28 (formerly claim 1) are rejected under 35 U.S.C. Section 101 because the inventions claimed therein allegedly constitute non-statutory subject matter. Specifically, the Examiner contends that "[t]he claims require both apparatus and method steps, for example in claim 28 the first nozzle is 'emitting' air and the second nozzle is 'emitting' fluid." Furthermore, these claims are rejected under 35 U.S.C. Section 112, second paragraph, since the Examiner contends without providing any reasoning that they are "indefinite as to what they require."

Applicant respectfully submits that the claims at issue both recite statutory subject matter and are perfectly definite. Contrary to the Examiner's position, no "method steps" appear in any of these claims. Instead, the claims at issue identify the **function** performed by the recited structures (e.g., the "air-emitting" nozzles of claims 7 and 28; the "air-atomizing nozzle" of claim 5; and the "gathering" shoe of claims 7 and 28 (to which the Examiner interestingly makes no objection)) comprising the claimed "apparatus for cooling filaments." The law is well established that "[a] patent applicant is free to recite features of an apparatus either structurally or functionally." *In re Schreiber*, 44 USPQ2d 1429 (Fed. Cir. 1997) (citing *In re Swinehart*, 439 F.2d 210, 212, 169 USPQ 226, 228 (CCPA 1971) ("[T]here is nothing intrinsically wrong with [defining something by what it does rather than what it is] in drafting patent claims.")).<sup>1</sup> Nevertheless, to be sure, claims 2 and 11 are adjusted to make clear the function being performed by the recited structures, and claim 7 is amended to omit reference to

<sup>1</sup> See also *In re Garnero*, 412 F.2d 276, 278-79, 162 USPQ 221, 223 (CCPA 1969) (holding that "the recitation of the particles as 'interbonded one to another by interfusion between the surfaces of the perlite particles' is as capable of being construed as a structural limitation as 'intermixed,' 'ground in place,' 'press fitted,' 'etched,' and 'welded,' all of which at one time or another have been separately held capable of construction as structural, rather than process, limitations").

"contacting" a size applicator (which structure is later introduced in claim 12 without the functional language). Accordingly, all claims are in full compliance with Sections 101 and 112 of the Patent Act, and withdrawal of the corresponding rejections is in order.

As for claims 13-14, the Examiner does not in any way explain why non-statutory subject matter is recited therein, or why the language used is indefinite. Accordingly, Applicant cannot respond to the rejections made, which should be explained with appropriate remarks. In the event the rejections are based on the dependency of these claims from claim 7, which is in proper form for the reasons provided above, then their withdrawal is in order.

**Bohy does not Anticipate Claims 2, 5, 7, 12, 13, and 28**

As noted above, claims 7 and 28 both require an "air-emitting" nozzle. U.S. Patent No. 4,071,341 to Bohy et al. ("Bohy") plainly discloses nozzles 13, 15 for emitting water and lubricants only (see col. 3, lines 23-24 and 51-58). On this point, the Examiner and Applicant are in agreement (see the Office Action of January 24, 2006, p. 5, second paragraph, "Bohy does not explicitly teach a specific nozzle . . . which emits air."). Hence, Bohy does not expressly disclose the inventions of claims 5, 7, and 28, including the properly expressed function performed by the nozzle, with the requisite strict identity to support the anticipation rejection made. See *Glaxo Inc. v. Novopharm Ltd.*, 52 F.3d 1043, 1047, 34 USPQ2d 1565, 1567 (Fed. Cir. 1995) (holding that to anticipate a claim, a prior art reference must disclose every limitation of the claimed invention) and *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) ("All words in a claim must be considered in judging the patentability of that claim against the prior art."). The Examiner does not contend otherwise and instead simply contends that "emitting is a method – not structure," which is not the case for the foregoing reasons. Rather, "emitting" air is a function that must be considered in evaluating the patentability of this claim. Accordingly, favorable reconsideration of the anticipation rejection of claim 1 as now embodied in claim 28 is respectfully requested.

**The Inventions of Claims 2, 5, 7, 12-13, and 28 are Unobvious**

The inventions of claims 7 and 28 (as former claim 1) are also rejected as being "obvious" under 35 U.S.C. Section 103(a) in view of Bohy in further view of U.S. Patent No. 6,161,778 to Haruch. Regardless of whether Haruch discloses a nozzle for emitting air, the rejection is improper because a proper motivation or suggestion for combining

these references is not identified. The only statement made in support of the rejection is that “[i]t would have been obvious to use the Haruch cooling nozzle in the Bohy device, because it gives enhanced liquid particle breakdown and distribution, is more versatile and can easily be customized as disclosed by Haruch.” This statement is mere speculation, unsupported by any substantial evidence whatsoever.

Additionally, the rejection fails to explain in any way why there is a desirability and, hence, a motivation to provide a nozzle with “enhanced liquid particle breakdown and distribution” or one that is “more versatile and can easily be customized as disclosed” for use in cooling filaments. No effort is made in any way to explain why the allegedly “air-emitting” nozzle of Haruch would be positioned as required in the claim, upstream of a second fluid-emitting nozzle, instead of downstream of it as shown in Bohy. Thus, the naked, unsupported, and frankly inapposite statement regarding the reasons a skilled artisan would look to Haruch cannot possibly qualify as the requisite substantial evidence necessary to establish a desirability and, thus, a motivation to combine the teachings of the references and arrive at the claimed inventions.

The position taken in support of the rejection is especially doubtful when it is considered that the primary Bohy reference expresses a clear preference for the use of water and lubricants in both cooling nozzles (see col. 3, lines 23-24 and 51-58). Hence, it actually teaches away from the use of an air and water emitting nozzle. *See, e.g. In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130 (Fed. Cir. 1994) (“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be . . . led in a direction divergent from the path that was taken by the applicant.”). The path taken by the Applicant here is to use an air emitting nozzle to provide cooling to the filaments while reducing the consumption of water. Bohy certainly does not suggest a solution to this problem, and in fact teaches the conventional approach from which the Applicant diverges. Nothing in Haruch even remotely suggests the use of an air-emitting nozzle in connection with a filament forming process. Accordingly, the Examiner is simply selecting bits and pieces of prior art references in an effort to arrive at the Applicant’s invention, when there is no motivation or suggestion to do so other than in the present specification. Such an approach to obviousness has long been assailed by numerous precedential case decisions. *See, e.g., Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1385, 58 USPQ2d 1286, 1293 (Fed. Cir. 2001) (“In holding an

invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention.”); *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 USPQ2d 1456 (Fed. Cir. 2000) (“a showing of a suggestion, teaching, or motivation to combine the prior art references is an ‘essential component of an obviousness holding’”). Accordingly, favorable reconsideration of the rejections of claims 2, 5, 7, 12-13, and 28 based on obviousness is respectfully requested.

**The Inventions of Claims 6, 11, and 14 are Unobvious**

Next, the Examiner cites Bohy with or without Haruch and in further view of U.S. Patent No. 4,168,959 to Loeffler (“Loeffler”) as rendering the inventions of claims 6, 11 and 14 “obvious” under Section 103(a) of the Patent Act. Like Bohy, Loeffler merely discloses the use of water in filament cooling, and thus does not disclose an air-emitting nozzle. Accordingly, it cannot possibly disclose, teach, or suggest the manifold for conveying air to the nozzle, as required in claims 6 and 11.

As for claim 14, the Examiner alleges that “Loeffler indicate[s] that angle is a result effective variable,” and then suggests that the recited invention merely constitutes “optimization within a range.” Loeffler merely states in the cited passage that a nozzle for spraying a **binder** may be positioned at “any angle” for coating the filaments. Applicant’s invention, in stark contrast, comprises an air-emitting nozzle positioned at one of a particular angle of angles to effect cooling of the filaments in the most efficient and effective manner. Absolutely nothing in Loeffler teaches or even remotely suggests the claimed air-emitting nozzle, so the Examiner’s reliance on the concept of “routine experimentation” and “optimization within prior art conditions” is entirely misplaced. Reconsideration of the rejection is therefore respectfully requested.

**New Claims 29-37 are Directed to Patentable Inventions**

Applicant presents new claims 29-37 for consideration. Claims 29 and 30 require that the first air-emitting nozzle of claims 28 and 7, respectively, does not emit water. Support for this “negative” limitation is found, for example, at page 6, line 20 of Applicant’s specification. The nozzles in both Bohy and Haruch clearly emit water, and thus cannot possibly meet the terms of these claims.

Claim 31 recites a filament cooling apparatus including a first nozzle for delivering compressed air for use in cooling the filaments emanating from the bottom plate of the bushing, along with a second fluid-emitting nozzle located adjacent the filaments at a second position downstream of the first nozzle. Support for this claim is found in the specification at, for example, at page 6, lines 28-29.

As admitted by the Examiner, Bohy does not disclose an air-emitting nozzle, so it certainly does not disclose one for delivering compressed air. In terms of obviousness, any combination with Haruch is improper for the reasons provided in the foregoing discussion. Accordingly, this new claim and dependent claims 32-33 are believed to be allowable.

New claim 34 reads on an apparatus for cooling filaments in a filament forming process comprising a bushing having a bottom plate from which the filaments emanate, and a first nozzle located at a first position for cooling and drying the filaments emanating from the bottom plate. Support for this claim is found, for example, at page 10, lines 7-8 and in Table "C" of Applicant's specification.

As admitted by the Examiner, the nozzles of both Bohy and Haruch emit water, and thus cannot be used for performing the function of "drying" the filaments as required by this claim. Accordingly, it is believed that the invention of claim 34 patentably distinguishes over the cited references and should be allowed.

New claim 35 also relates to an apparatus for cooling filaments in a filament forming process, including *inter alia*: (1) means for emitting air to cool the filaments emanating from a bottom plate of a bushing; and (2) means for emitting fluid to cool the filaments downstream of the means for emitting air. These elements use the "means for" language triggering the strictures of Section 112, sixth paragraph of the Patent Act. Dependent claims 36 and 37 clearly link and associate the structures serving as the means for emitting air and fluid in accordance with one disclosed embodiment of the invention.

Under well-established concepts of U.S. patent law, a reference that fails to meet the functional portion of a "means plus function" limitation does not, without more, teach or make obvious that limitation. See, e.g., *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987) (*en banc*) ("To determine whether a claim limitation is met literally where expressed as a means for performing a stated function, the court must compare the accused structure with the disclosed structure, and must find

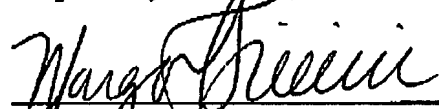
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equivalent structure as well as identity of claimed function for that structure.") (emphasis added), *cert. denied*, 485 U.S. 961 and 1009 (1988). As admitted by the Examiner, "Bohy does not explicitly teach a specific nozzle . . . which emits air." (see the Office Action of January 24, 2006, p. 5, second paragraph). Accordingly, it cannot possibly teach the invention of claim 35, which expressly requires "means for emitting air." Moreover, no motivation whatsoever exists to use the nozzle of Haruch in the arrangement of Bohy for the reasons previously stated (and, even if such were not the case, the Examiner has not explained why a skilled artisan would arrive at the precise arrangement required by claim 35). For the foregoing reasons, claim 35 and its dependent claims patentably distinguish over the cited references and should be allowed.

Conclusion

In summary, all the pending claims patentably distinguish over the prior art and should be formally allowed. Upon careful review and consideration it is believed the Examiner will agree with this proposition. Accordingly, the early issuance of a formal Notice of Allowance is earnestly solicited. Any fees required in connection with this Response may be debited to Deposit Account 50-0568.

Respectfully submitted,



Margaret S. Millikin  
Reg. No. 38,969

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Owens Corning  
2790 Columbus Road, Route 16  
Granville, Ohio 43023-1200  
(740) 321-5359